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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,735	07/16/2004	Wayne Keith Webb	APV31805	5153
24257	7590	10/10/2006	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP			BELL, BRUCE F	
1615 L STREET, NW			ART UNIT	
SUITE 850			PAPER NUMBER	
WASHINGTON, DC 20036			1746	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/501,735

Applicant(s)

WEBB, WAYNE KEITH

Examiner

Bruce F. Bell

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-20 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/16/04; 07/26/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 10-17, 20, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Assenmacher (6,569,300 in combination with Perry (4186074).

Assenmacher discloses disclose a steel clad cathode for electrolytic refining of copper wherein a solid copper hanger bar and a stainless steel mother plate are attached to each other by a receiving groove in the underside of the hanger bar. The entire length of the connection is welded. The solid hanger bar includes a cladding of stainless steel wrapped over the copper bar and the upper portion of the mother plate, leaving only the ends of the copper bar exposed for electrical connection with a conventional bus bar. The lower edges of the cover are attached to the mother plate by a steel to steel weld that produces a strong and durable connection. The lateral edges of the cover are also connected to the copper bar by a conventional copper weld that completely seals the cover over the copper bar. The cover is then welded to the mother plate and sealed around the copper bar. The heat produced by the welding process, which causes the steel cladding material to expand during welding, is used to improve the tightness of the fit between the cover and the copper bar as a result of the covers shrinkage, occurring during cooling. See abstract. Figures 7, 11 and 12 disclose a weld

40 inside where the stainless steel cladding and copper hanger bar meet the stainless steel cathode plate. The cladding is shown to connect the plate and the weld fills the area between the cladding and the copper bar where the cathode plate has been inserted into the copper bar. The cladding surrounds the copper bar. Further welds are used between the cathode plate and the outside of the cladding.

Assenmacher does not disclose specifically that the copper hanger bar is a corrosion resistant support element or that the support element is a stainless steel.

The prior art of Perry discloses that a flat stainless steel starter sheet is welded by its upper edge to an underside of the hanger bar so that the sheet extends perpendicularly from the underside of the hanger bar. See col. 3, lines 53-56. The stainless steel out of which the hanger bar is made may be the same as the starter sheet. See col. 4, lines 26-28. Stainless steel is disclosed to not be a good conductor and the use of a hanger bar made only of stainless steel is not a sufficient vehicle for passage of current between the bus bar and the starter sheet. To overcome this, Perry found that by cladding the hanger bar and the top margin of the starter sheet welded to it, with copper, it gave adequate electrical conductivity and the ability to with stand corrosion and mechanical drainage. The width of the copper plated margin at the top of the starter sheet is not critical provided it stops short of the top surface of the electrolyte.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Assenmacher does not disclose that the copper hanger bar is corrosion resistant, the prior art of Perry discloses that copper can resist corrosion. Further, since Perry

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discloses that the copper and stainless steel are used together to get the proper electrical conductivity and because Assenmacher has a copper hanger bar and a stainless steel cladding which Perry has a stainless steel hanger bar and a copper cladding, it appears that one having ordinary skill in the art would be motivated to use these two materials in either configuration to make a cathode plate assembly.

Therefore, the prior art of Assenmacher in combination with Perry render the applicants instant invention as obvious for the reasons set forth above.

Claim Objections

3. Claims 5-7, 10-12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The instant claims as set forth depend from an instant claims which already had a metal cladding affixed. The manner in which the metal cladding is affixed does not change the structure already existing in a previous claim. Apparatus must rely on structure not on a method of producing the structure.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 19, 23, 24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 19 and 23 instantly claim the cladding being affixed by interference fit and by chemical or mechanical fastening and by roll forming, but do not give an example of either the interference fit (i.e. by heating and cooling) or the chemical (resin bonding) or mechanical fastening (screwing into place) or roll forming (pressure roller).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 18, 19 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is vague and indefinite with respect to how the cladding can be affixed to the support element before connection of the support element to the cathode blade since independent claim 16 has the support element being affixed to the cathode blade prior to affixing the cladding. Since claim 16 is already affixed, it is unclear as to how or why one would unaffix it and reaffix the cladding in the manner set forth in claim 18.

Claims 19, 23 and 24 are vague and indefinite with respect to the phrases "interference fit" and "chemical or mechanical fastening" and "roll forming". It is unclear from these phrases how the cladding is affixed to the hanger bar, since no examples of these affixing methods have been disclosed.

Correction and/or clarification is requested.

Allowable Subject Matter

8. Claims 8, 9, 21, 22 are allowable over the prior art of record.
9. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest the use of an aluminium bronze or silicone bronze weld. Further the prior art of record fails to teach and/or suggest the cladding be affixed to the support element before connection of the support element to the cathode blade.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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BFB
September 26, 2006


Bruce F. Bell
Primary Examiner
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